

PFAS Policy and Regulations Subgroup

Final Meeting Minutes (adopted April 19, 2021)

11:00 am to 12:00 pm, March 15, 2021

Hosted by the Virginia Department of Health Office of Drinking Water

1. Welcome and meeting overview: ODW Policy Director, Nelson Daniel called the meeting to order 11:02 a.m. The meeting was conducted by electronic communication means (WebEx) due to the ongoing public health emergency and recorded. Nelson used a presentation for the meeting. It follows the Minutes and will be posted on Town Hall.
 - a. Subgroup members (members present indicated by “y”)
 - i. Phillip Musegaas (Potomac Riverkeeper Network) y
 - ii. Paul Nyffeler (Chem Law) n
 - iii. Jamie Hedges (Fairfax Water) n
 - iv. Jillian Terhune (City of Norfolk) y
 - v. Wendy Eikenberry (Augusta County Service Authority) y
 - vi. John Aulbach (Aqua Virginia) y
 - vii. Russ Navratil (VA AWWA) n
 - viii. Jessica Edwards (Loudoun Water) y
 - ix. Mike McEvoy (Western Virginia Water Authority) y
 - x. Andrea Wortzel (Mission H2O) y
 - xi. Steve Risotto (ACC) n
 - xii. Nelson Daniel (VDH Office of Drinking Water) y
 - b. Guests
 - i. Amanda Waters – AquaLaw
 - ii. Carroll Courtenay – Southern Environmental Law Center
 - iii. Eric Whitehurst – City of Richmond Dept. of Public Utilities
 - iv. Mitchell Smiley – Virginia Municipal League
 - v. Katie Hellebush – Hellebush Consulting, LLC
 - vi. Anna Killius – James River Association
2. Minutes from the February 22, 2021 meeting – Subgroup members reviewed the minutes prior to the meeting and did not have any changes; Nelson will post them as “final” on Town Hall.
3. Member updates on state/federal development of maximum contaminant limits (MCLs) or other limits on PFAS:
 - a. **EPA announcement** (February 22, 2021): “Today, the U.S. Environmental Protection Agency (EPA) issued two actions to protect public health by addressing per- and polyfluoroalkyl substances (PFAS) in drinking water, highlighting the agency’s commitment to address these long-lasting ‘forever chemicals’ that can enter drinking water supplies and impact communities across the United States. The Biden-Harris administration is committed to addressing

PFAS in the nation's drinking water and will build on these actions by advancing science and using the agency's authorities to protect public health and the environment. Taken together, these two actions will support the agency's efforts to better understand and ultimately reduce the potential risks caused by this broad class of chemicals. EPA is reproposing the Fifth Unregulated Contaminant Monitoring Rule (UCMR 5) to collect new data on PFAS in drinking water and the agency is reissuing final regulatory determinations for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) under the Safe Drinking Water Act (SDWA). After a thorough review in accordance with Biden-Harris administration executive orders and other directives, the agency is reissuing these actions. EPA will build on them using a strong foundation of science while working to harmonize multiple authorities to address the impacts of PFAS on public health and the environment. EPA is also committed to a flexible approach and working collaboratively with states, tribes, water systems, and local communities that have been impacted by PFAS. With the final Regulatory Determinations for PFOA and PFOS, EPA will move forward to implement the national primary drinking water regulation development process for these two PFAS. The Regulatory Determinations also outline avenues that the agency is considering to further evaluate additional PFAS chemicals and provide flexibility for the agency to consider groups of PFAS as supported by the best available science. Additionally, the proposed UCMR 5 would provide new data that is critically needed to improve EPA's understanding of the frequency that 29 PFAS are found in the nation's drinking water systems and at what levels. EPA will accept public comment on the proposed UCMR 5 for 60 days, following publication in the Federal Register. EPA will also hold a virtual stakeholder meeting twice during the public comment period." See www.epa.gov/safewater

- b. Maryland legislators have not taken action on pending legislation related to PFAS.
4. EPA process to develop an MCL – See Presentation
 5. Discussion about additional research needs – See Presentation
 - a. Sample results
 - b. Priorities for information from other subgroups
 - c. Information from other states
 - d. HB1257 (2020) Interim Report – available on the LIS website:
<https://rga.lis.virginia.gov/Published/2020/RD696/PDF>
 6. Review and releasing sampling results – During the March 4 VA PFAS Workgroup meeting, members expressed concerns about releasing results of PFAS sampling to the public without giving waterworks where samples will be collected notice and providing context about the results. Nelson asked Subgroup members to discuss concerns further and share recommendations for handling results, while ensuring VDH satisfies

requirements in Virginia's Freedom of Information Act (FOIA), Code of Virginia § 2.2-3700 et seq., related to public records.

- a. FOIA requires that all public records be open to inspection by the public unless specifically exempted.
- b. Considerations/concerns expressed by Subgroup members:
 - i. Waterworks (i.e., the source of sample) should have access to data before it is made public, so they can prepare information for consumers.
 1. Nelson noted that, as part of the Sampling Plan, a waterworks that collects a sample will include contact information on the chain-of-custody documentation. VDH has asked the laboratory that is analyzing the samples to return results to VDH and the waterworks concurrently.
 - ii. Without standards, any detection may be suspect, waterworks are likely to get questions from the press and public. What would waterworks do to satisfy questions about the safety of the drinking water they provide, particularly without established standards?
 - iii. Verified data should be released to the public – once VDH has data that has been through QA/QC, will VDH have data posted on a website with a map to show where sampling took place, compounds tested for, and concentrations – rather than just numbers?
 1. The Interstate Technology Regulatory Council has a guidance document on per- and polyfluoroalkyl substances which includes information on data evaluation in section 11.3 (see <https://pfas-1.itrcweb.org/>).
 - iv. Has VDH determined a limit, action level? Is there a trigger level for notification? Action?
 - v. At the state level, develop a fact-sheet with information for the public to put sample results in context...
 1. EPA has established a health advisory level, but there is also a range of values from other states;
 2. HB586 and HB1257 require Virginia to go through process to determine levels, look at the range of regulatory limits in other states, and develop limits for Virginia
 - vi. Expect consumers will contact waterworks after results are released and will have questions about water safety...
 - vii. What about non-detects? Just as helpful to show all data, including non-detects (locations with non-detects)
 1. Subgroup members agree with benefit of showing non-detects as well as concentrations of PFAS within EPA Method 33 that are present above the reporting limit
 - viii. Good for VDH to issue talking points for consistent message for everyone
 - ix. Balancing FOIA – all data is public v. how we communicate this with the public. When DEQ did sampling re PCBs, they issued guidance

documents that explain DEQ's purpose of sampling, test methods, guidelines on sampling process, constraints on understanding information, etc. – as a resource to communicate with the public. See:

<https://townhall.virginia.gov/L/ViewGDoc.cfm?gdid=5521>

(Procedures for reviewing and deriving total PCB concentrations from samples analyzed using low-level PCB method 1688...) (April 4, 2014) and <https://townhall.virginia.gov/L/ViewGDoc.cfm?gdid=3932> (TMDL Guidance for Monitoring of Point Sources for TMDL Development using Low-level PCB Method 1668 – Amendment 1) (November 11, 2011)

- x. Concern about data being published before the report – without report, the sample results will lack content, meaning; at a minimum, provide guidance before releasing sample data
- xi. VDH plans to associate data with locations via GIS
- xii. Concern about how data will be interpreted – every state that has a limit/advisory, is doing it differently... we have to be clear how we establish limits, and why. Data without meaning and context – without this, public expectation that limit needs to be zero.
- xiii. Provide explanation from VDH determining where and how much PFAS is present, and have a timeline to develop limits –
 - 1. VDH has a mandate (HB1257) and process (Virginia Administrative Process Act, Code of Virginia §§ 2.2-4000 et seq.) to develop limits in the Waterworks Regulations
 - 2. Subgroup members expressed reluctance to look for ways to restrict or delay release of data.
 - 3. Nelson commented on limits of HB586 – the legislation calls on the workgroup to determine if there is PFAS in drinking water. Setting MCLs is a separate action under HB1257 (amending Code of Virginia § 32.1-169, effective January 1, 2022).

7. Public comment – none

8. Nelson concluded the meeting at 12:10 and stopped the recording.

Next meeting: April 19, 2021, 11:00 am; time/date for PFAS Workgroup has not been set.

PFAS Policy and Regulations Subgroup
Draft Meeting Agenda

By WebEx

11:00 am to 12:00 pm, March 15, 2021

Hosted by the
Virginia Department of Health Office of Drinking Water

1. Welcome and meeting overview
2. Minutes from the February 22, 2021 meeting (Town Hall)
3. Member updates on state/federal development of MCLs or other limits on PFAS (as needed)
4. EPA process to develop an MCL
5. Discussion about additional research needs
 - a. Priorities for information from other subgroups
 - b. Information from other states
6. Review and releasing sampling results
7. Public comment

Next meeting: April 19, 2021, 11:00 am

PFAS Policy and Regulations Subgroup

Nelson Daniel

Virginia Department of Health
March 15, 2021

PFAS Policy Subgroup Meeting Overview

Update Member Reports on Research

- EPA, CA, CO, CT, MD, NY, MA, MI, MN, NH, NJ, NC, VT, Other States

EPA steps in developing an MCL

- Requirements in Va. Code 32.1-169 B

Additional Research Needs

Review and Releasing Sample Results

Deliverables for the next meeting

Public comments

Meeting Minutes

Minutes are published on:

- Virginia Town Hall
- <https://townhall.virginia.gov/> search for PFAS

Members receive email with minutes

Minutes saved on the PFAS Workgroup SharePoint

- PFAS Policy... Subgroup > Meetings

Need to approve meeting minutes of:

- February 22, 2021

Subgroup Members

- Phillip Musegaas (Potomac Riverkeeper Network) y
- Paul Nyffeler (Chem Law)
- Jamie Hedges (Fairfax Water)
- Jillian Terhune (City of Norfolk) y
- Wendy Eikenberry (Augusta County Service Authority) y
- John Aulbach (Aqua Virginia) y
- Russ Navratil (VA AWWA)
- Jessica Edwards (Loudoun Water) y
- Mike McEvoy (Western Virginia Water Authority) y
- Andrea Wortzel (Mission H2O) y
- Steve Risotto (ACC)
- Nelson Daniel (VDH Office of Drinking Water) y

Meeting Guests

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Virginia PFAS Workgroup - Objectives

Determine the occurrence of PFAS in drinking water throughout the Commonwealth,
Identify possible sources of PFAS contamination, and

Evaluate existing approaches to regulating PFAS, including regulatory approaches adopted by other states and the federal government.

Six specific PFAS, including:

- Perfluorooctanoic acid (PFOA)
- Perfluorooctane sulfonate (PFOS)
- Perfluorobutyrate (PFBA) [aka Pentafluorobutanoic acid??]
- Perfluoroheptanoic acid (PFHpA)
- Perfluorohexane sulfonate (PFHxS) [Perfluorohexane sulfonic acid]
- Perfluorononanoic acid (PFNA)

Other PFAS “as deemed necessary”

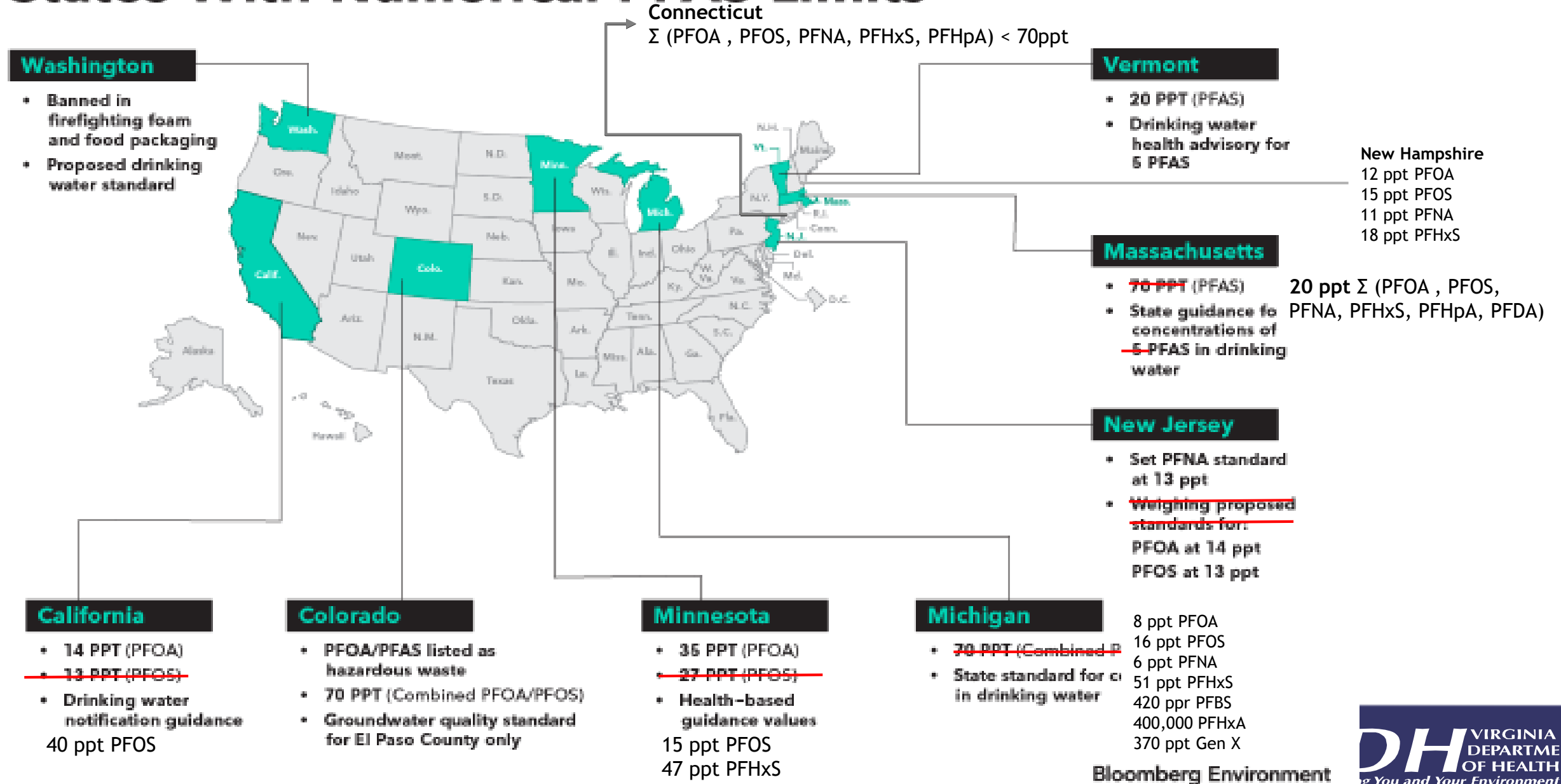
Virginia PFAS Workgroup - Objectives

May develop recommendations for specific maximum contaminant levels (MCLs) for:

- Perfluorooctanoic acid (PFOA)
- Perfluorooctane sulfonate (PFOS)
- Perfluorobutyrate (PFBA)
- Perfluoroheptanoic acid (PFHpA)
- Perfluorohexane sulfonate (PFHxS)
- Perfluorononanoic acid (PFNA)

And other PFAS “as deemed necessary”

States With Numerical PFAS Limits



	California	Connecticut	Massachusetts	Michigan	Minnesota	New Hampshire	New Jersey	New York	Vermont	EPA*	avg
	Response Level	Action Level	MCL	MCL	Health Advisory	MCL	MCL	MCL	MCL	Health Advisory	
PFOA	10	✓	✓	8	35	12	14	10	✓	✓	14.8
PFOS	40	✓	✓	16	15	15	13	10	✓	✓	18.2
PFNA		✓	✓	6		11	13		✓	not included	10.0
PFHxS		✓	✓	51	47	18			✓	not included	38.7
PFHpA		✓	✓						✓	not included	
PFDA		not included	✓						not included	not included	
PFBS		not included	not included	420					not included	not included	
PFHxA		not included	not included	400000					not included	not included	
Gen X		not included	not included	370					not included	not included	
SUM		70	20						20	70	

Updates from February Policy Subgroup Meeting

U.S. EPA

- announcement re PFOA/PFOS

CA, CO, CT

MA, MD, MI, MN

NC, NH, NJ, NY

VT

Feb 22, 2021 EPA News Release

Today, the U.S. Environmental Protection Agency (EPA) issued two actions to protect public health by addressing per- and polyfluoroalkyl substances (PFAS) in drinking water, highlighting the agency's commitment to address these long-lasting "forever chemicals" that can enter drinking water supplies and impact communities across the United States. The Biden-Harris administration is committed to addressing PFAS in the nation's drinking water and will build on these actions by advancing science and using the agency's authorities to protect public health and the environment. Taken together, these two actions will support the agency's efforts to better understand and ultimately reduce the potential risks caused by this broad class of chemicals. **EPA is reproposing the Fifth Unregulated Contaminant Monitoring Rule (UCMR 5) to collect new data on PFAS in drinking water and the agency is reissuing final regulatory determinations for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) under the Safe Drinking Water Act (SDWA).** After a thorough review in accordance with Biden-Harris administration executive orders and other directives, the agency is reissuing these actions. EPA will build on them using a strong foundation of science while working to harmonize multiple authorities to address the impacts of PFAS on public health and the environment. EPA is also committed to a flexible approach and working collaboratively with states, tribes, water systems, and local communities that have been impacted by PFAS. **With the final Regulatory Determinations for PFOA and PFOS, EPA will move forward to implement the national primary drinking water regulation development process for these two PFAS. The Regulatory Determinations also outline avenues that the agency is considering to further evaluate additional PFAS chemicals and provide flexibility for the agency to consider groups of PFAS as supported by the best available science.** Additionally, the proposed UCMR 5 would provide new data that is critically needed to improve EPA's understanding of the frequency that 29 PFAS are found in the nation's drinking water systems and at what levels. EPA will accept public comment on the proposed UCMR 5 for 60 days, following publication in the Federal Register. EPA will also hold a virtual stakeholder meeting twice during the public comment period.

For more information, visit www.epa.gov/safewater.

EPA steps in developing an MCL

The SDWA specifies the following three requirements for making a Regulatory Determination regarding MCL development:

- The chemical **may have an adverse effect on the health of persons;**
- The chemical is known to occur or there is a substantial likelihood that it **will occur in PWSs with a frequency and at levels of public health concern;** and
- In the sole judgment of the EPA administrator, **regulating the contaminant presents a meaningful opportunity for health risk reductions for persons served by PWSs.**

EPA steps in developing an MCL

After reviewing health effects data, EPA sets a maximum contaminant level goal (MCLG). **The MCLG is the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, allowing an adequate margin of safety.** 42 USC 300 g-1 (b)(4)(A).

MCLGs are non-enforceable public health goals. **MCLGs consider only public health and not the limits of detection and treatment technology effectiveness.**

When determining an MCLG, EPA considers the adverse health risk to sensitive subpopulations:

- Infants
- Children
- The elderly
- Those with compromised immune systems and chronic diseases

EPA steps in developing an MCL

For chemical contaminants that are carcinogens, EPA sets the MCLG at zero if both of these are the case:

- there is evidence that a chemical may cause cancer
- there is no dose below which the chemical is considered safe.

If a chemical is carcinogenic and a safe dose can be determined, EPA sets the MCLG at a level above zero that is safe.

For chemical contaminants that are non-carcinogens but can cause adverse non-cancer health effects (for example, reproductive effects), the MCLG is based on the **reference dose (RfD)** - an estimate of **the amount of a chemical that a person can be exposed to on a daily basis that is not anticipated to cause adverse health effects over a lifetime.**

EPA steps in developing an MCL

To determine the RfD, the concentration for the non-carcinogenic effects from an epidemiology or toxicology study is divided by uncertainty factors, providing a margin of safety for consumers of drinking water.

The RfD is multiplied by body weight and divided by daily water consumption to provide a **Drinking Water Equivalent Level (DWEL)**.

The DWEL is multiplied by the relative source contribution. The **relative source contribution** is the percentage of total drinking water exposure for the general population, after considering other exposure routes (for example, food, inhalation).

EPA steps in developing an MCL

Once the MCLG is determined, EPA sets an enforceable standard - generally a maximum contaminant level (MCL) - **the maximum level allowed of a contaminant in water which is delivered to any user of a public water system.**

When there is no reliable method that is economically and technically feasible to measure a contaminant at concentrations to indicate there is not a public health concern, EPA sets a **“treatment technique”** - an enforceable procedure or level of technological performance which public water systems must follow to ensure control of a contaminant.

EPA steps in developing an MCL

The MCL is set as close to the MCLG as feasible. Taking cost into consideration,* EPA must determine the **feasible** MCL or treatment technique. This is defined by SDWA as the level that may be achieved with:

- use of the best available technology or treatment approaches
- other means which EPA finds are available (after examination for efficiency under field conditions, not solely under laboratory conditions).

42 USC 300g-1 (b)(4)(B) - (D)

As a part of the rule analysis, SDWA also requires EPA to prepare a health risk reduction and cost analysis (HRRCA) in support of any NPDWR.

*<https://www.epa.gov/sdwa/sdwa-economic-analysis>

EPA steps in developing an MCL

Feasible technologies -

Each national primary drinking water regulation which establishes a MCL shall list the technology, treatment techniques, and other means which are feasible to meet the MCL*

For small systems, EPA (in consultation with the States) shall include in the list any technology ... that is affordable for waterworks serving—

(I) $< 10,000 > 3,300$;

(II) $< / = 3,300 > 500$; and

(III) $< / = 500 > 25$;

and that achieves compliance with the MCL or treatment technique, **including packaged or modular systems and point-of-entry or point-of-use treatment units.**

42 USC 300 g-1 (b)(4)(E)(ii)

*(but regs shall not require that any specified technology... to meet the MCL)

§ 32.1-169. (Effective January 1, 2022) Supervision by Board.

B. The Board shall adopt regulations establishing maximum contaminant levels (MCLs) in all water supplies and waterworks in the Commonwealth for (i) perfluorooctanoic acid and perfluorooctane sulfonate, and for such other perfluoroalkyl and polyfluoroalkyl substances as the Board deems necessary; (ii) chromium-6; and (iii) 1,4-dioxane. **Each MCL shall be protective of public health, including of vulnerable subpopulations, including pregnant and nursing mothers, infants, children, and the elderly, and shall not exceed any MCL or health advisory for the same contaminant adopted by the U.S. Environmental Protection Agency.** In establishing such MCLs, the Board shall review MCLs adopted by other states, studies and scientific evidence reviewed by such states, material in the Agency for Toxic Substances and Disease Registry of the U.S. Department of Health, and current peer-reviewed scientific studies produced independently or by government agencies.

Va. Code § 32.1-169 v. SDWA § 1412 (42 USC 300g-1)

Each MCL shall be:

- protective of public health, including vulnerable subpopulations (pregnant and nursing mothers, infants, children, and the elderly)
- shall not exceed any MCL or health advisory for the same contaminant adopted by the U.S. EPA

Each MCL shall be:

- Set as close to the MCLG as possible
- taking cost into consideration
- feasible technologies (shall list the technology, treatment techniques, and other means which are feasible to meet the MCL)
- considerations for small systems

Needs

What does the subgroup want to consider in order to come up with recommendations for MCLs for some or all of the PFAS the Workgroup is studying?

What information do we need from other subgroups to make recommendations about MCLs?

- Concentration data (sample results)
- Do we need to consider treatment techniques? (Costs associated with each technology, small system considerations - are techniques scalable?)
- Do we need to consider detection limits?
- Do we need to consider health effects/toxicology? (considering impacts on vulnerable populations, in addition to broader health effects)
- Do we need to consider test methods?

Handling Sample Results

Three questions are most important in evaluating data:

- (1) Have the results exceeded a level of concern?
- (2) Do these results make sense?
- (3) Are data of acceptable quality?

ITRC Technical/Regulatory Guidance

Per- and Polyfluororalkyl Substances (PFAS)

September 2020

Chapter 11, Sampling and Analytical Methods

- 11.3.2 Overall Usability of the Data

Handling Sample Results

Sample results, “records,” held by a public body are subject to the Virginia Freedom of Information Act

- Unless subject to an exemption

- Discussion

Public Comment

Other PFAS Events:

PFAS Policy Subgroup – April 19, 2021

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